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|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/802,044 | TARR ET AL. | |
| | Examiner | Art Unit | |
| | Thuy Dao | 2192 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 01/26/2010.
2. ☒ The allowed claim(s) is/are 1-7,9-16,18-22,28-32,35,36,and 38 (renumbered 1-28).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
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| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date <u>20100415</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192

DETAILED ACTION

1. This action is responsive to the amendment filed January 26, 2010. In the instant amendment, claims 1, 9, 22, and 28-30 have been amended; and claims 37-38 have been added.

2. Claims 1-7, 9-22, and 28-38 have been examined. In view of examiner's amendment, claims 17, 33, 34, and 37 have been canceled. Claims 1-7, 9-16, 18-22, 28-32, 35, 36, and 38 are being allowed (renumbered 1-28).

Examiner's Amendments

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Mr. Phillip E. Miller, Registration No. 46,060, on April 22, 2010, to put the claims in condition for allowance.

IN THE CLAIMS:

Claims 17, 33, 34, and 37 are canceled.

Claims 1, 20, 22, and 28-30 are amended as follows:

Claim 1 (Currently Amended),

A system for identifying concerns, comprising:

a specifying device for specifying an initial concern in a software system, said specifying said initial concern including defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up the software system; and

an identifying device for:

using the initial concern to explore artifacts in said software system; and

based on a result of said using the initial concern to explore artifacts in said software system, identifying a related concern in said software system having a relationship with said initial concern, at least one of the initial and related concerns comprising an artifact other than source code,

wherein said identifying said related concern comprises ~~comprising~~ automatically computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns, by exploring artifacts in said software system to determine said relationship by using one of pattern-matching and data mining, and

wherein at least one of said initial concern and said related concern comprises a unified modeling language (UML) artifact.

Claim 17 (Canceled)

Claim 20 (Currently Amended),

A system for identifying concerns, comprising:

a specifying device for specifying a query against artifacts related to software development, including software, generated code, or models and information about software, said query comprising an initial concern, said specifying said query including defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up the software system;

means for displaying the results of the query, said results comprising a related concern having a relationship with said initial concern, at least one of the initial and related concerns comprising an artifact other than source code,

means for automatically computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns by

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exploring artifacts in said software system to determine said relationship by using one of pattern-matching and data mining; and

means for updating the query when at least one of new artifacts are introduced, artifacts are deleted, and artifacts are changed,

wherein at least one of said initial concern and said related concern comprises a unified modeling language (UML) artifact.

Claim 22 (Currently Amended),

A method of identifying concerns, comprising:

specifying an initial concern in a software system, said specifying said initial concern including defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up the software system;

using the initial concern to explore artifacts in said software system and, based on a result of said using the initial concern to explore artifacts in said software system, identifying a related concern in said software system having a relationship with said initial concern, at least one of the initial and related concerns comprising an artifact other than source code, said identifying said related concern comprising automatically computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns by exploring artifacts in said software system to determine said relationship by using one of pattern-matching and data mining;

displaying said initial concern and said related concern; and

navigating said software system in an integrated development environment (IDE),

wherein said relationship comprises at least one of a call to said initial concern and a call from said initial concern,

wherein said specifying said initial concern comprises using a query tool for inputting a query, such that said initial concern is returned as a result of said query,

~~wherein said identifying said related concern comprises automatically generating said related concern, and~~

wherein said initial concern comprises at least one of an extensional concern and an intensional concern, and

wherein at least one of said initial concern and said related concern comprises a unified modeling language (UML) artifact.

Claim 28 (Currently Amended),

A method of generating concerns, comprising:

identifying a first concern in a software system, said identifying said first concern including defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up the software system;

examining a program using said first concern and text of said program;
identifying a second concern in said software system based on a result of said examining said program using said first concern and text of said program, at least one of the first and second concerns comprising an artifact other than source code said identifying said second concern comprising automatically computing a content of said second concern based on said first concern and said relationship between said first and second concerns by exploring artifacts in said software system to determine said relationship by using one of pattern-matching and data mining; and

displaying and navigating concerns in an integrated development environment (IDE),

wherein at least one of said first concern and said second concern comprises a unified modeling language (UML) artifact.

Claim 29 (Currently Amended),

A programmable storage medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of identifying concerns, said method comprising:

specifying an initial concern in a software system, said specifying said initial concern including defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up the software system;

using the initial concern to explore artifacts in said software system and, based on a result of said using the initial concern to explore artifacts in said software system, identifying a related concern in said software system having a relationship with said initial concern, at least one of the initial and related concerns comprising an artifact other than source code, wherein said identifying said related concern comprises ~~comprising~~ automatically computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns by exploring artifacts in said software system to determine said relationship by using one of pattern-matching and data mining, and

wherein at least one of said initial concern and said related concern comprises a unified modeling language (UML) artifact.

Claim 30 (Currently Amended),

A method for deploying computing infrastructure in which computer-readable code is integrated into a computing system, such that said code and said computing system combine to perform a method of identifying concerns, said method of identifying concerns comprising:

specifying an initial concern in a software system, said specifying said initial concern including defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up the software system;

using the initial concern to explore artifacts in said software system and, based on a result of said using the initial concern to explore artifacts in said software system, identifying a related concern in said software system having a relationship with said initial concern, at least one of the initial and related concerns comprising an artifact other than source code,

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wherein said identifying said related concern comprises ~~comprising~~ automatically computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns by exploring artifacts in said software system to determine said relationship by using one of pattern-matching and data mining, and

wherein at least one of said initial concern and said related concern comprises a unified modeling language (UML) artifact.

Claim 33 (Canceled)

Claim 34 (Canceled)

Claim 37 (Canceled)

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Examiner's Statement of Reasons for Allowance

5. The following is an examiner's statement of reasons for allowance: as Applicants pointed out in the Remarks, the prior art of record (Robillard-Murphy and Robillard) do not disclose and/or fairly suggest at least claimed limitations recited in such manners in independent claim 1 *"...based on a result of said using the initial concern to explore artifacts in said software system, identifying a related concern in said software system having a relationship with said initial concern, at least one of the initial and related concerns comprising an artifact other than source code, said identifying said related concern comprising automatically computing a content of said related concern based on said initial concern and said relationship between said initial and related and defining a query language comprising a set of operators and evaluation properties that together work to identify concerns within different artifacts that make up the software system, wherein said identifying said related concern comprises automatically generating said related concern by exploring artifacts in said software system to determine said relationship by using one of pattern-matching and data mining, and wherein at least one of said initial concern and said related concern comprises a unified modeling language (UML) artifact."* and similarly recited in such manners in other independent claims 20, 22, and 28-30 (Remarks, pp. 10-12).

These claimed limitations are not present in the prior art of record and would not have been obvious, thus all pending claims are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication should be directed to examiner Thuy (Twee) Dao, whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thuy Dao/
Examiner, Art Unit 2192

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192